

*Denis et al.*  
Serial No. 09/836,884  
Amendment of April 28, 2003  
Page 2

The Office Action states (in brief) that Noguchi teaches a process for forming at least one transistor on a substrate, but fails to teach a substrate comprising a polyphenylene polyimide as required by all the present claims. The Office Action further states that the Abstract teaches a substrate comprising such a polyphenylene polyimide, and that it would have been obvious to one of ordinary skill in the art of making semiconductor devices to incorporate the teaching of the Abstract into Noguchi's method because in doing so a substrate [that] has excellent heat resistance, cold resistance, mechanical property, electric property, wear resistance, chemical resistance and curling resistance can be obtained.

The applicants do not dispute that Noguchi teaches a process for forming at least one transistor on a substrate, but note that in Noguchi the substrate 100 is made of a quartz glass, and hence is a rigid substrate. Furthermore, the applicants do not dispute that the Abstract teaches a substrate comprising a layer of polyphenylene polyimide and a layer of metal, and that this substrate has, *inter alia*, excellent heat resistance. However, the Abstract only teaches that this substrate is useful as a substrate for formation of flexible printed circuits. As will readily be apparent to the Examiner and anyone skilled in the art of circuit fabrication, the requirements for a substrate for formation of printed circuits, which are typically formed either by printing patterns of conductive ink on the substrate or by metallizing the substrate and patterning the resultant metal layer to form conductors, are very different from the requirements for forming transistors on a substrate by deposition of a layer of semiconductor material on the substrate. Hence, it would not appear to one of ordinary skill in the relevant art whether the polyimide/metal flexible substrate taught by the Abstract could be used in the Noguchi process.

~~In this connection, it should be noted that both the Abstract and Noguchi tacitly acknowledge differences between the substrates used for printed circuits and those used for thin-film transistor arrays. As already noted, the Abstract states that its polyimide/metal flexible substrate is suitable for use in flexible printed circuits but makes~~

*Denis et al.*  
Serial No. 09/836,884  
Amendment of April 28, 2003  
Page 3

no mention of suitability for use as a substrate for thin film transistor arrays. Given the relative costs per unit area of printed circuits and thin film transistor array devices (for example, backplanes for liquid crystal displays), and the fact that the patentee of the Abstract is Sumitomo, a large and diversified Japanese manufacturer of electronic products, there would appear to be every incentive for the inventors of the Abstract to claim that their substrate would be useful as a substrate for thin film transistor arrays if such a claim could plausibly be made on the basis of its suitability as a substrate for printed circuits. Furthermore, Noguchi, as already noted, forms his thin film transistors on quartz glass, a material which is not, to the best of the undersigned's knowledge, used as a substrate for printed circuits, presumably because its lack of flexibility and brittleness render it disadvantageous for the purpose. Thus, the references used in support of the 103 rejection themselves indicate that the art recognizes a clear distinction between substrates used for printed circuits and those used for thin film transistor arrays, and that a substrate used for the former is not necessarily (or even probably) useful as a substrate for the latter.

The foregoing arguments are applicable to all of claims 1-25. However, there is an additional reason why claim 12 (which is not dealt with separately in the Office Action) is patentable over the references of record. Claim 12 is directed to according to claim 1 wherein the substrate comprises a metal layer on the side thereof remote from the semiconductor material, and the metal layer has walls defining apertures extending through the metal layer. Neither Noguchi nor the Abstract disclose the use of a metal layer having apertures extending therethrough, and hence claim 12 cannot be obvious over these references.

For all the foregoing reasons, the 35 USC 103 rejection is unjustified and should be withdrawn.

Reconsideration and allowance of all claims remaining in this application are respectfully requested.

*Denis et al.*  
Serial No. 09/836,884  
*Amendment of April 28, 2003*  
Page 4

A Petition for a three month extension of time for the filing of this Amendment, including an authorization to charge the fee for this Petition to the assignee's Deposit Account, is being filed herewith.

Respectfully submitted,

  
David J. Cole  
Registration No. 29629

E Ink Corporation  
733 Concord Avenue  
Cambridge MA 02138-1002

Telephone (617) 499-6069  
Facsimile (617) 499-6200  
E-mail dcole@eink.com

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

		Application Number	09/836,884
		Filing Date	April 17, 2001
		First Named Inventor	Denis et al.
		Art Unit	2823
		Examiner Name	Nguyen, K.D.
Total Number of Pages in This Submission	6	Attorney Docket Number	H-303

**ENCLOSURES (Check all that apply)**

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to a Technology Center (TC)
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input checked="" type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Response to Missing Parts/Incomplete Application		
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		
Remarks		

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual	David J. Cole
Signature	<i>David J. Cole</i>
Date	April 28, 2003

**CERTIFICATE OF TRANSMISSION/MAILING**

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date:

4/28/2003

Typed or printed	David J. Cole
Signature	<i>David J. Cole</i>
Date	4/28/2003

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, Washington, DC 20231.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-786-9199) and select option 2.